A new species of *Discocyrtoides* (Opiliones: Gonyleptidae: Bourguyinae)

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Summary

A new species of *Discocyrtoides* Mello-Leitão, from the southern part of the state of Espírito Santo (southeastern Brazil), *Discocyrtoides pardus* sp. n., is described. *Discocyrtoides maculatus* H. Soares is newly recorded from the same state (central part). Some brief comments are made on the systematic position of the Bourguyinae and their relationships with the Mitobatinae.

Introduction

The subfamily Bourguyinae was established by Mello-Leitão (1923:128) to comprise two new genera of Brazilian Gonyleptidae, *Bourguya* and *Discocyrtoides*. Later, some other genera previously described in the Pachylinae were assigned to the new subfamily.

The habitus of bourguyine species closely resembles that of mitobatines, owing to one derived character shared by members of the two subfamilies and by no other gonyleptids: fourth femora of male extremely elongate and unarmed.

According to the diagnosis of Mello-Leitão (1923: 128), the bourguyine species should be placed in a separate subfamily because they possess five scutal areas (four mesotergal areas plus the posterior margin), while mitobatine species show four scutal areas (three mesotergal areas plus the posterior margin). This fitted in perfectly with the Roewerian classification system, which made use of the same character to distinguish, e.g., Pachylinae from Gonyleptinae. However, using a phylogenetic approach, we see that the possession of five scutal areas is a clearly plesiomorphic character state for gonyleptids (the same state is found also in all lineages of Pachylinae, the presumed outgroup). So, this would leave us without any synapomorphy grouping the taxa now included in the possibly non-monophyletic assemblage of Bourguyinae. The subfamily probably will be synonymised with the Mitobatinae, after a careful evaluation of characters.

The trend to segmental fusion is common among opilionids, and fusion of the third and fourth scutal areas by effacement of the fourth groove may have taken place independently at least twice in gonyleptid history. According to Mello-Leitão (1949:8), fusion of the third and fourth areas progresses from the centre to the periphery in the series Bourguyinae-Mitobatinae, and in the inverse direction in the Pachylinae-Gonyleptinae series. However, I have observed exactly the opposite for some mitobatines in the material I have examined (gonyleptines usually show either 4 or 5 complete grooves, sometimes within conspecific population samples). Anyway, the presence of three mesotergal areas must be a homoplasy (as it results from independent events of segment fusion) and should not therefore imply any real sister-group relationship for the taxa which share that character, e.g., Mitobatinae and Gonyleptinae.

We often find specimens of mitobatine species with incomplete fusion of the last two areas of the mesotergum (groove appears only at centre). This makes it difficult to decide whether certain specimens should be assigned to *Discocyrtoides* Mello-Leitão, 1923, or to the mitobatine genus *Ancistrotellus* Roewer, 1923, which includes a large number of species.

The Bourguyinae include at present five valid genera and twenty-five species, fifteen of which are assigned to *Discocyrtoides*. Two species referred to this genus have been described from Espírito Santo (southeastern Brazil, *D. ruschii* (Mello-Leitão, 1942) and *D. vellutinus* (Mello-Leitão, 1940), both known only from the type locality, Santa Teresa (central part of the state). In the present paper I report two additional species for the state of Espírito Santo, *D. maculatus* H. Soares, 1974 and *D. pardus* sp. n.

D. pardus sp. n. is recorded from Apiacá, in the extreme southern part of the state, a region whose opilionid fauna remains poorly known, and which hitherto has yielded no mitobatines or bourguyines. *D. pardus* shows some overall similarity to larger *Ancistrotellus* species. In fact, the only difference between the two genera is that between the two respective subfamilies: the above mentioned character regarding segmentation of the mesotergum.

D. maculatus was originally described from Viçosa, state of Minas Gerais. I was able to study a single additional specimen collected about forty years ago by the naturalist A. Ruschi in Santa Teresa, Espírito Santo. This specimen corresponds exactly to Soares' description, except for the complete fusion of the third and fourth mesotergal areas. For that reason it was labelled by Mello-Leitão as a new *Ancistrotellus* species, though never described.

Abbreviations of institutions are: Museu de Zoologia da Universidade de São Paulo (MZUSP); Museu Nacional do Rio de Janeiro (MNRJ); Departamento de Zoologia da Universidade Federal do Rio de Janeiro (DZUFRJ); and personal collection of H. Soares, Botucatu, São Paulo (HS).

The newly collected specimens are numbered in DZUFRJ collection, even though they will be donated to MNRJ or MZUSP, because these institutions at present use no catalogue numbers for opilionid collections.

All measurements are in mm.

Discocyrtoides pardus sp. n. (Figs. 1-6)

Material examined

Male holotype (DZUFRJ 0112, MZUSP) from Fazenda Santa Maria, Apiacá, Espírito Santo, Brazil (10 June 1985, R. L. C. Baptista); one male paratype (DZUFRJ 0113, MZUSP) from same locality (10 June 1985, R. L. C. Baptista); one male paratype (DZUFRJ 0117, MNRJ) from same locality (22 September 1985, R. L. C. Baptista). All collected from holes (probably abandoned armadillo burrows) on ravine walls near the road, at the edge of woods.

Etymology

The species name is a latin masculine noun, meaning panther, referring to the spotted colour pattern of the legs.

Diagnosis

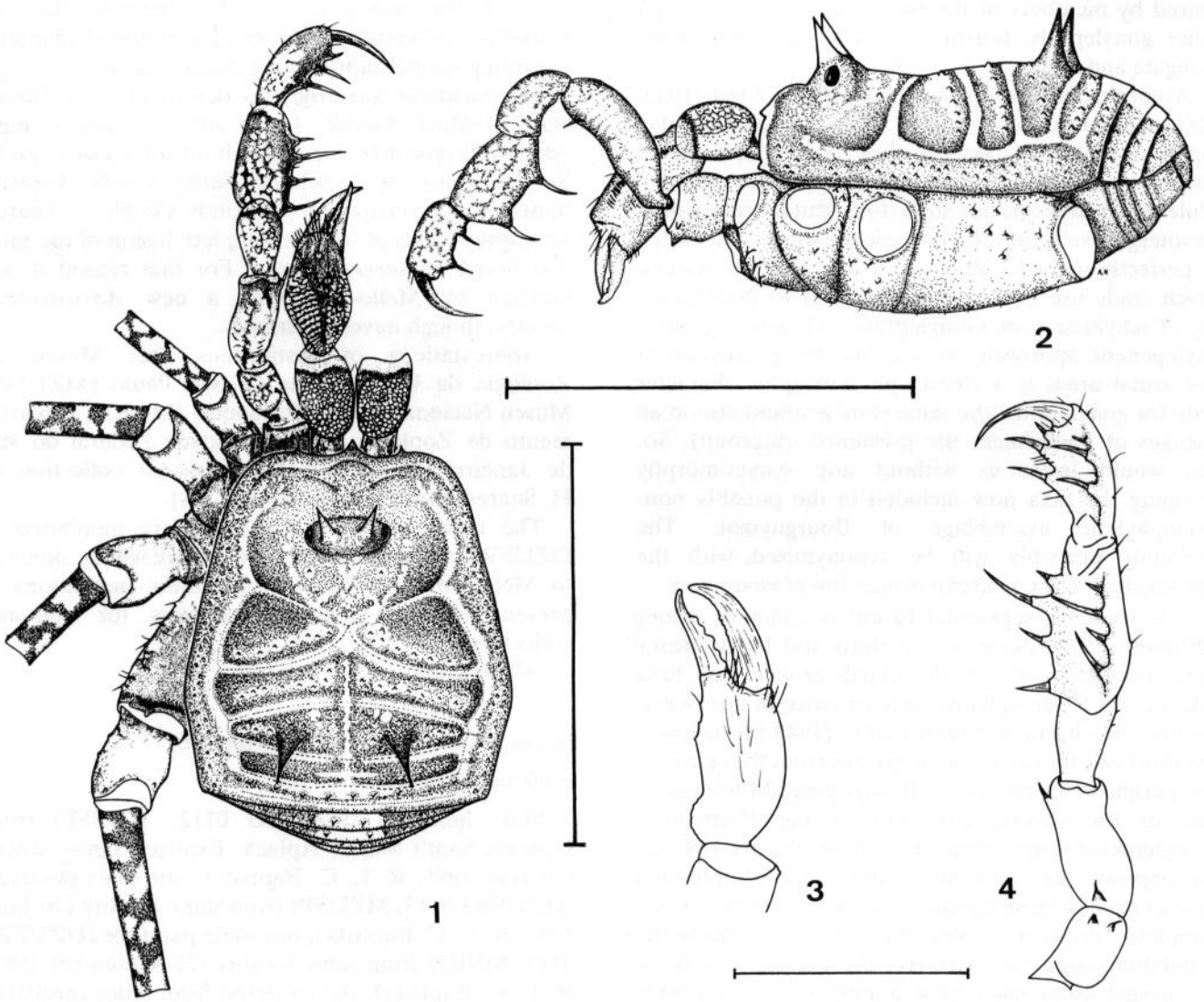
D. pardus belongs to the group of *Discocyrtoides* species which have a nearly rectangular dorsal scute and unarmed coxae IV in male (i.e. *D. maculatus, D. rosai, D. ruschii* and *D. vellutinus*). Most closely related to *D. maculatus* and *D. vellutinus, D. pardus* differs from both species by its larger size, much longer legs, lack of velvet-like spots on dorsal scute, dark brown coxae (light tan in *maculatus* and light yellow in *vellutinus*), and by the ventral branch of the glans penis (much broader in *maculatus* and with smooth margins in *vellutinus*).

Both *D. pardus* and *D. maculatus* differ from *D. vellutinus* in colour of pedipalps (not light-yellow spotted), seven tarsal segments on third and fourth legs (instead of nine), panther-like reticulation of femora (instead of uniform colour), granule row on carapace margin and lateral margin of scute. Both *D. pardus* and *D. vellutinus* differ from *maculatus* in typical black pigmentation of dorsal scute, contrasting light yellow spines of eye-tubercle and very sparse granulation of body.

Male holotype

Dorsal scute 4.27 long. Cephalothorax 1.43 long, 2.97 wide. Anterior margin 2.05 wide. Abdominal scute 2.84 long, 3.97 wide.

Dorsum (Figs. 1-2): Dorsal scute nearly rectangular, longer than wide, broadest at area II, sides bowed along coxae IV, abdomen rounded posteriorly, apical angles straight. Anterior margin of carapace thickened, with three projections flanking chelicerae, with antero-median low elevation. Eye-tubercle long oval, low, situated in mid-length of carapace, armed with slightly divergent pair of strongly contrasting light-yellow high spines. Carapace almost entirely smooth, with very few minute granules in posterior half. Scutal groove deep, forming obtuse angle with vertex pointing posteriorly. Abdominal portion of dorsal scute divided into four distinct areas (mesotergum) and a posterior margin by five transverse grooves; fourth area narrower than



Figs. 1-4: *Discocyrtoides pardus* sp. n., male holotype. **1** Habitus, dorsal view; **2** Habitus, lateral view; **3** Left chelicera, ventral view; **4** Left pedipalpus, ventral view. Scale lines = 5.0 mm (1-2), 2.0 mm (3-4).

remainder; first area divided by longitudinal median line, second area projecting into first. Third scutal groove slightly bowed anteriorly, fourth and fifth bowed posteriorly. All areas unarmed, except area III, with pair of high, deep-black spines. Minute granules scattered in areas I to IV, forming definite transverse row in each (in paratypes denser granulation, following groove, and between spines of area III). Lateral margins with very small granules scattered over whole length. Dorsal scute dark yellow with very dense black pigmentation, interrupted by yellow zones along grooves, on carapace around and upon eye-tubercle, in median portion of area I, and in median transverse line in area II. Longitudinal median narrow zone dark yellow, dividing all areas of dorsal scute; median third of free tergites bright yellow, forming a large spot, very noticeable from above. Posterior margin of dorsal scute and free abdominal tergites unarmed, with transverse row of small granules. Dorsal anal plate entirely black, unarmed, with very few small granules.

Venter (Fig. 2): Coxae I-IV reddish brown, covered with black reticulation; all coxae with small granules that increase in size from coxa IV to I, where they become hair-tipped tubercles. Stigmatic area same colour as coxae, showing fine granulation. Stigmata clearly visible. Free sternites smooth, black. Ventral anal plate lighter with minute granules.

Chelicera (Fig. 3): Not swollen. Dark yellow covered with black reticulation. Proximal segment 1.26 long, unarmed; distal segment 1.72 long, unarmed, except for several hairs on all surfaces; fingers toothed.

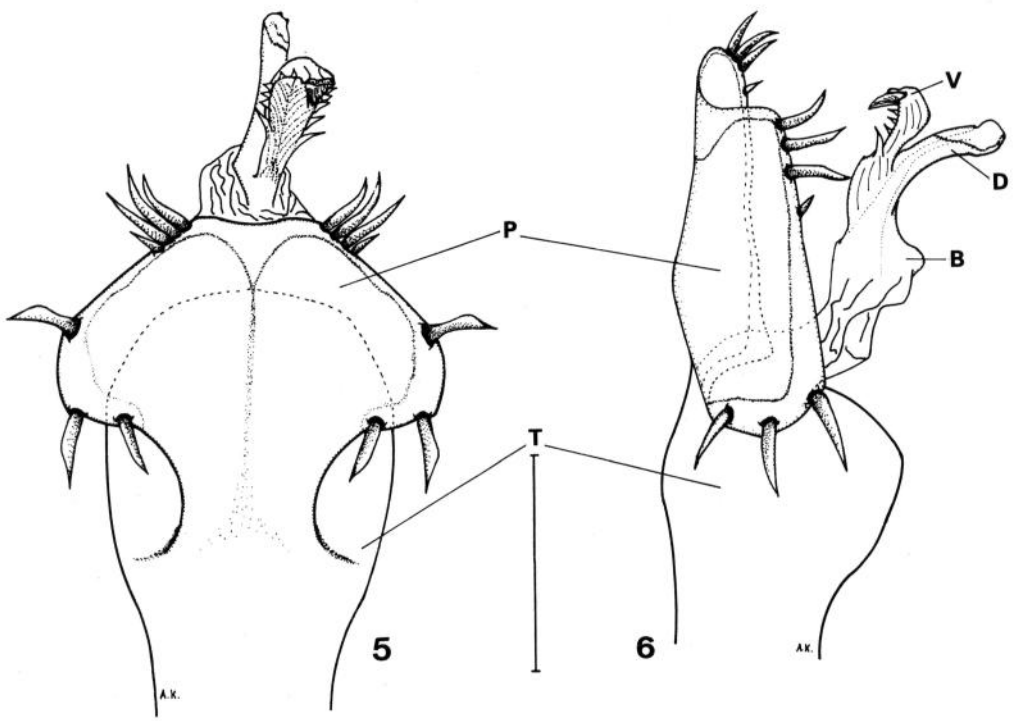
Pedipalpus (Fig. 4): Robust and strongly spined. Same colour pattern as chelicera. Coxae granulose. Trochanters armed ventrally with small spine and ventro-medial tubercle. Femora with one ventro-basal spine and one median-apical spine. Patellae robust, unarmed, widened distally. Tibiae considerably thickened at base with four ventro-medial and four ventro-lateral spines. Tarsi with row of three ventro-medial spines (third shorter) and a row of three ventro-lateral ones (third shorter). Tarsal claws slightly curved, smooth. Measurements in Table 1.

Legs: All segments dark yellow, covered with black reticulation, except coxae, which are reddish brown. All femora with wide, open black reticulation outlining oval cells. All patellae widened distally. Fourth femora and metatarsi very elongate. Metatarsi divided into astragali and calcanei (these always shorter: 2/5, 1/6, 1/3, 1/4). Erect bristles over leg surface, especially second pair; inclined bristles thickly grouped over calcanei and tarsi. Double claws of tarsi III and IV simple, untoothed, no scopulae. Tarsal segmentation 6:15:7:7 (as only variation among all specimens, holotype showed 7 segments on right first tarsus). Distitarsi I and II each with three segments. Coxae IV armed dorsally with very small distal tooth. Surface of leg segments very finely granular. Measurements in Table 1.

Penis (Figs. 5-6): Length 3.04. Basal portion of glans (B) soft and rugose, giving rise to more heavily sclero-

	Tr	Fe	Pa	Ti	Mt	Ta	Total
Palpus	0.70	1.05	0.98	1.40	—	2.24	6.37
Leg I	0.70	5.67	1.23	4.12	5.91	2.62	20.25
Leg II	1.04	15.94	1.47	12.25	15.27	6.84	52.81
Leg III	1.06	12.94	1.55	7.43	11.87	3.53	38.38
Leg IV	1.04	28.37	1.79	19.79	26.30	6.74	84.03

Table 1: *Discocyrtoides pardus* sp. n., ♂ holotype, appendage measurements.



Figs. 5-6: *Discocyrtoides pardus* sp. n., male paratype DZUFRJ 0113, distal portion of truncus and glans penis. **5** Ventral view; **6** Lateral view. Scale line = 0.15 mm. B = basal portion of glans penis, D = dorsal branch, P = ventral plate, T = truncus, V = ventral branch.

tised bifid structure. Dorsal branch (D, containing ejaculatory duct) cylindrical, slightly swollen at apex; ventral branch (V) gently curved downwards, more sharply distally, somewhat flattened, with a central stalk and serrate margins. Ventral plate (P) rectangular, concave at frontal margin, wider basally; lateral margins armed with two groups of setae; basal group of 3 long, curved setae, apical group of 4 setae (3 long and curved, one short and straight). Truncus (T) slender and cylindrical, swollen near glans.

Distribution

Known only from the type locality.

***Discocyrtoides maculatus* H. Soares**

D. maculatus H. Soares, 1974: 479.

Material examined

Male holotype and 2 female paratypes (HS 366) from Viçosa, Minas Gerais, Brazil (March 1958, Camargos); one female (MNRJ) from Estação Biológica do Museu Nacional, Santa Teresa, Espírito Santo (A. Ruschi).

Notes

Santa Teresa belongs to the same geographic subregion as the type locality, but is about 250 km nearer the eastern coast.

The female from Espírito Santo shows the spots identical to the types, and tarsal segmentation 6:11:7:7; distitarsi I and II with 3 segments. However, the third and fourth mesotergal areas are completely fused. Leg and palpus measurements in Table 2.

	Tr	Fe	Pa	Ti	Mt	Ta	Total
Palpus	0.85	1.79	1.13	1.82	—	2.42	8.01
Leg I	0.85	4.04	1.06	3.30	4.84	2.02	16.11
Leg II	1.06	9.68	1.38	7.98	10.21	6.06	36.37
Leg III	1.28	7.13	1.49	4.52	7.29	3.46	25.17
Leg IV	1.07	11.06	1.54	6.65	11.49	5.11	36.92

Table 2: *Discocyrtoides maculatus* Soares, ♀ MNRJ, appendage measurements.

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